The MAC Flyer

FEBRUARY 1979

Stretching the Starlifter . . . page 4

MILITARY AIRLIFT COMMAND

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The MAC Flyer

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Flyer Call

Occasionally we receive letters or articles that don't fall into any of the common categories of contributions to *The Mac Flyer*. Usually these items are either too short to run as an article or too long to run as a letter in "Flight Lines" without chopping a substantial portion in the interests of space. Sometimes writers take issue with established practices or procedures; sometimes they simply want to philosophize on circumstances or conditions that affect aircrew life in general. At any rate, we feel that it would be a service to aircrewmembers to provide a forum for written contributions containing ideas and opinions relating to our profession as airlifters. With that in mind, we are reviving a feature that has appeared on occasion in past issues of *TMF*. It's called "Flyer Forum," and you'll find it on page 3 of this issue. When we deem it appropriate, we'll toss in a little editorial comment of our own after the writer's pronouncements. We don't expect the "Forum" to appear in every issue, but its frequency will reflect the interest and reader response *TMF* receives. **JGG**

FLYER FORUM

To Go or Not To Go...

Sometimes tempers flare unnecessarily between crewmembers. This most often happens when there is a question of professional judgment—particularly between flight engineers and pilots about a system malfunction. For some reason pilots seem to feel their position of command is being threatened when an FE says, "This bird will be on a 'red X' when we land." It's at this time these few pilots take offense and try to change the engineer's mind with statements such as, "There's no maintenance at the base we're going to, so let's not say anything till we get home." Or, "Yeah! That's out of limits all right, but let's just keep an eye on it." And then there's the ever popular, "We'll shut that engine down after we take off; the plane flies almost as well on three engines and I can handle it!" That sounds very gung ho and macho—and dumb! True, having one of four engines shut down isn't all that bad, *if* nothing else goes wrong. But it seems that too often accidents are caused by compounding malfunctions. If only these pilots would understand that the engineer is doing the job he was hired to do and that anyone can ground an aircraft when in his opinion it is unsafe for flight. After all, what's a few more minutes or even hours on the ground if this ounce of prevention could save lives and valuable property? It always amazes me that a pilot (or any other crewmember) would want to fly an aircraft when unsafe conditions exist. Remember, flight engineers don't create the conditions; they just observe them and report them, along with sound recommendations. And it usually isn't a problem of the FE's not wanting the aircraft to fly; it's just that he values his life more than any peacetime mission. In an ending note, an engineer doesn't necessarily not want to fly; it's just that when the brave, macho, mission-hacking, flight-oriented pilot crashes, the engineer dies about one-tenth of a second later. Let's all fly safe and longer.

SSgt David L. Amsden, C-130E Flight Engineer
303 TAS (AFRES)
Richards-Gebaur AFB, Missouri

Editorial Counterpoint

Anybody who has been around the MAC system for awhile has undoubtedly been exposed to a contest of wills between an aircraft commander and one of his crewmembers. We could philosophize all month about the management and psychological principles involved in such confrontations, but the overriding fact is that an AC is charged with the responsibility for the safety of his crew and airplane, and the final decision on whether or not to accept an airplane as airworthy is ultimately up to him. A wise AC may, and certainly should, consult with his expert crewmembers and take their advice into consideration, but he alone must decide and bear the consequences for his decision. Although the pressure on an AC to hack the mission is often strong, the implications of a fatal crash tend to far outweigh taking a "sick" airplane just for the sake of "pressing on." One last thought. Most AC's are more than willing to listen to the experts on their crew before formulating their decisions. How well they receive such inputs, however, is directly related to the attitude (advising vs. challenging) with which the inputs are presented.—*Ed.*

STRETCH

Here's all you ever wanted to know about the C-141B, but didn't know who to ask.

The C-141 stretch modification program has generated some questions and misconceptions among MAC's flyers. They range from, "Why are we stretching an old airplane like the C-141?" to "Are they really going to take out the 'crew loft' when they make the B model?" Here's a C-141B program update right from the "horse's mouth" that should help you understand the stretching of the Starlifter.—Ed

Military Airlift Command saw the need for additional airlift capability in 1974. The command's experience with the Israeli airlift, Zaire support, and the airlift of UN troops to Lebanon pointed out the need for the rapid movement of men and equipment that can only be accomplished by air. Intensifying the need for airlift, several US overseas bases have been closed and troops relocated to the CONUS without a corresponding reduction in the Nation's commitments to its allies. Of course, budget constraints also continue to influence most Department of Defense programs. These factors add up to the need to get the largest increase in airlift capability for the least money.

Why Stretch?

The Air Force studied several alternatives for increasing airlift capability. Some of these included buying an existing wide-body commercial aircraft, a no-frills version of the C-5, or stretching the C-141's. The stretched Starlifter (C-141B) has two clear advantages over the other options: It will cost less to buy now and less to operate in the future. The B-model modification costs less than might be expected because both the basic airframe and engines on the C-141A are sufficient to handle the added size and weight. Therefore, the amount of new engineering work and hardware needed to build the C-141B is comparatively small. Also, operating and maintenance (O&M) costs for the Stretch are significantly lower than other choices, because

by Capt Michael P. Black
HQ MAC C-141 Maintenance Engineering

NG the Starlifter

adding any new aircraft to the inventory would require additional parts, people and equipment to keep it flying. On the other hand, the C-141B requires no additional crewmembers and minimal increases in supplies and maintenance.

One of the most frequently asked questions is, "If the B model has the same engines, how can it carry more cargo?" The answer lies in the fact that the C-141 is usually cube-limited rather than weight-limited. The B won't carry any more cargo weight—in fact, it will carry approximately 8,000 pounds less—but it will haul more pallets. Adding 23.3 feet to the fuselage will allow the C-141B to carry 13 pallets instead of 10 and to routinely operate much closer to its maximum gross weight. This increase in airlift capability is like adding 90 to 120 new C-141A's (depending on the type load and mission) to MAC's fleet. Stretching the remaining 271 MAC C-141A's will cost $458 million, or about $1,690,000 each. This is a bargain because it's like getting the equivalent airlift capability of 100 new C-141A's for the cost of 100 Hercules without a large increase in O&M funding.

During the initial studies, there was concern that the C-141 didn't have enough airframe life to justify stretching it. The airframe was originally designed to last 30,000 hours. During 1974 the airframes were averaging about 15,000 hours, and they were expected to have over 20,000 hours a piece by the time the stretch modification was finished. To accurately project the Starlifter's minimum service life, the C-141A durability and damage tolerance assessment (DADTA) program was started. The program was later extended to the B model to determine the long-range effects of the modifications on its service life. Engineering analysis of the data showed that the B modification combined with the resulting changes in missions would slightly decrease the predicted life compared to the C-141A, but the C-141B could still be economically maintained for over 45,000 hours. This was a 50 percent increase over the original design and an increase of 5,000 hours over the previous best guess for the A model. Essentially, the

stretched Starlifters should last well past the year 2000.

What We Get

The C-141 modification contract calls for two significant changes: stretching the fuselage and installing the air refueling receptacle.

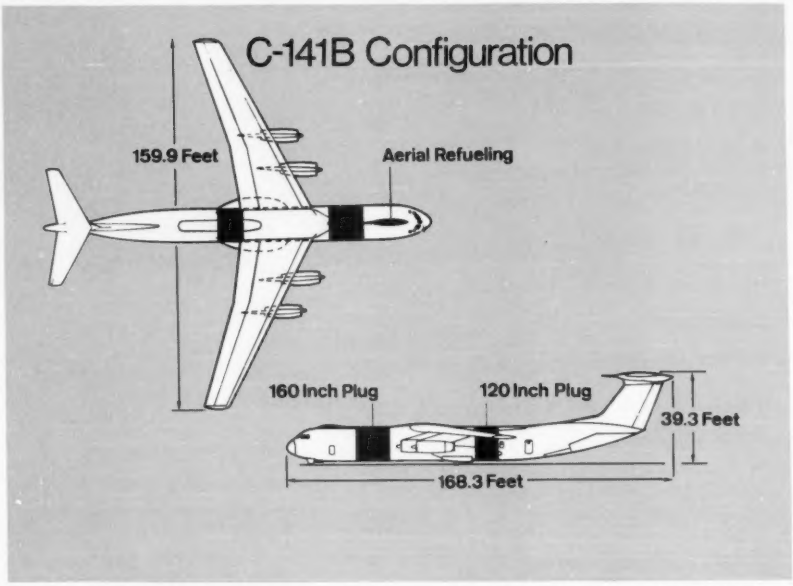
Two plugs will be installed to increase the Starlifter's length by 23.3 feet. A 160-inch plug will be installed forward of the wing at fuselage station (FS) 618 and a 120-inch section will be inserted at FS 1058. The plugs will contain the same equipment that is in the present fuselage including cargo rollers, rails, oxygen outlets, and lights. Due to higher bending moments created by the additional length, the center fuselage will be reinforced with extra longerons and titanium straps.

For the purpose of reducing reliance on en route support, a universal air refueling receptacle slipway installation (UARRSI) will be added. The installation includes all the hardware needed for receiving fuel and is designed for high reliability, ease of maintenance, and universal application. The bulk of additional O&M costs for the C-141B will be for the UARRSI.

Remaining changes are small. The fuel system will be altered slightly to accommodate the in-flight refueling apparatus—including new fuel-level control valves. Some of the air conditioning ducts will be rerouted, and the sextant will lose a little of its field of view due to its location in front of the refueling receptacle. In addition, several antennas on the fuselage must be moved.

Not Quite Prototype

The production B models won't be just like the prototype YC-141B, tail number 66-0186. The wing-to-fuselage fairing that was installed on the prototype will not be part of the production model. The modified fairing was designed to redistribute wing airloads. In 1973, engineering estimates indicated that the Stretch's additional weight might reduce the Starlifter's life by up to 14,000 hours. A new fairing was designed to move the wing's center of pressure inboard and thereby reduce fatigue. As the data from DADTA and the prototype testing were studied, the fatigue from the additional weight proved to be less than expected. Coupled with the increased estimate of service life for the basic airframe, this meant that the B model, even without the new fairing, would have at least a 45,000-hour service life—5,000 hours more than the 1973 estimate for the C-141A. Additionally, the vortex generators will be removed to reduce drag. The prototype's new fairing required changes to the inboard flaps, the spoilers, and the air conditioning system. Keeping the original fairing will save $114.5 million and will not significantly affect the service life or performance of the C-141B.



Without the new fairing, the forward plug can be inserted at FS 618 instead of FS 734, and it doesn't disturb the existing fairing.

Testing

The stretch modification program includes three testing phases. Phase I testing was done on unmodified C-141 number 66-0186 with special instrumentation to get very accurate baseline data. Then 186 was stretched and Phase II testing began in March 1977. Flight tests at Marietta, Georgia, and Edwards AFB, California, were finished in August 1977. Phase II testing included airworthiness, performance, heavyweight ground and air operations, aerial refueling, and aerial delivery.

Phase III testing will be conducted in four stages from February 1969 through June 1980. Stage one will determine any differences that putting the old fairing back

on the prototype might make. Stage two will develop flight handbook data. Stage three will be conducted at a MAC base with a production C-141B to make sure that all deficiencies identified from the prototype have been corrected. Stage four will be follow-on testing of a production aircraft at a MAC base concentrating on aerial delivery and operational employment of the Stretch Starlifter.

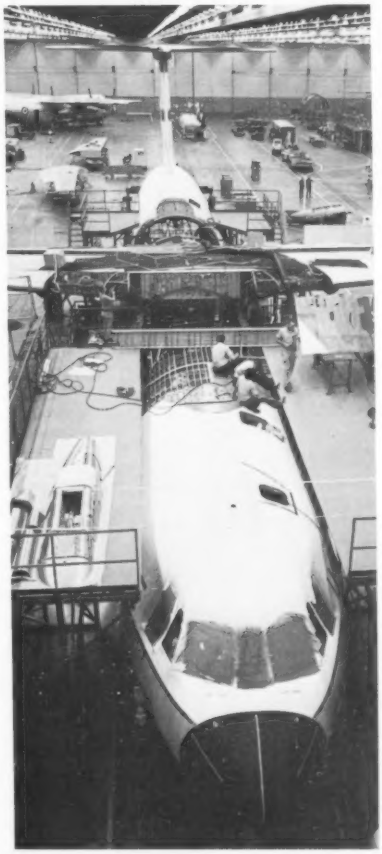
You'll Notice . . .

Flight performance has changed some. The tail clearance angle decreased due to the added fuselage length, so no-flap landing speed must be increased five knots which increases stopping distance about 500 feet. Control responses remain virtually the same. The added fuselage length does contribute to dampening out dutch roll—a definite plus for safety. The prototype stretch model used about the same amount of fuel as an unmodified C-141, but the production B models will probably have slightly higher fuel consumption than the original Starlifters. New fuel performance charts will be developed during Phase III testing.

Ground handling has also changed slightly. The turn radius has been increased, which will require repositioning taxi lines and parking spots at some bases. The stretched Starlifter will, however, still be able to make a 180-degree turn on a 150-foot-wide runway. Seeing the wingtips from the cockpit is difficult, but the tip clearances will not change. Also, the modification added more weight forward of the main landing gear, so the B model has improved stability during jacking. Loading the Stretch will be about the same as the A model, but you'll have to pay special attention to gross weights and percent of M.A.C. since you'll have room for three more pallets.

But I Thought . . .

There are some misconceptions about the C-141B that need to be dispelled. First, we are going to stretch all 271 remaining C-141A's and, no, we aren't buying a whole new airplane from Lockheed. Yes, the crew rest platform is going to be removed from the A model before it goes to Georgia to be stretched, but it will be reinstalled when the B model comes back home. The crew bunk will remain. Thought was given to flush-mounting the refueling receptacle, but that would have caused a major intrusion into the flight deck area. Fortunately, testing showed that putting it on top of the fuselage didn't contribute much extra drag. Yes, the fuselage plugs for the prototype were handmade, but not because the airframe was warped. Production tooling had not yet been built when 66-0186 was modified. Preassembled plugs will be ready for installation into the production aircraft. Finally, the first Starlifter to be stretched was not highly corroded when cut apart, but there are provisions for treating corrosion if it is found in production aircraft. After all, this kind of problem cannot be ignored if we happen to find it.



C-141 66-0186 being made into the first Stretch Starlifter.

When Do I Get One?

Lockheed expects to deliver the first production C-141B to the Air Force in December 1979. Production will continue until the last Starlifter is stretched in July 1982. During peak production periods, there will be as many as 32 aircraft undergoing modification at one time. By then, it will take just 64 days to modify an airplane. Even though a large number of aircraft will disappear in the general direction of the Lockheed-Georgia plant, MAC's airlift capability will not be decreased significantly (even temporarily) because each newly stretched C-141 will increase airlift capability.

Overall, the C-141B program will give MAC 272 aircraft which will carry more and fly farther and safer. It will increase airlift capability and keep the C-141 fleet a vital part of the United States airlift force into the 21st century.

Someone Behind

by
Capt Marcus L. Sherrill
AFIT Graduate School of Logistics
Wright-Patterson AFB, Ohio

Pride goeth before destruction, and a haughty spirit before a fall.

—Proverbs

Slam!

"Bill, please be careful with that door!"

"Sure, Mom. Is everything ready? They'll be here for the party any minute. Did you see me up there when I got my diploma?"

"Yes, I saw you. A real high school graduate now. Another four years and you can wear a cap and gown again for college graduation."

Later, during the graduation party, I watched Bill introduce his girlfriend around.

"Uncle Alex. I would like you to meet Mary Logan. Mary, my Uncle Alex. He's my *dad's* brother," Bill emphasized with pride.

"Pleased to meet you, young lady. Boy howdy, Bill, you're growing up to be just like your dad! A pretty girl named Mary and off to college to study aeronautical engineering."

"That boy has all the confidence in the world—just like his dad, Big Bill, "Alex told me later.

He meant it as a compliment, but I couldn't help remembering another party and someone else's comment about self-confidence. It was an older major who said

Honorable Mention, 1978 MAC Flying Safety Writing Contest

something to my husband, Bill, about that subject. His name was Jerry—funny, we knew him so well, but the last name escapes me now. What was it he said? Advice about not confusing confidence with ego . . . never becoming so confident that you turn complacent about your job in the cockpit. I remember him adding, "Bill is so good at what he does for being so new at it that he really has a bright future." Maybe things would have been different if Big Bill had remembered Jerry's warning.

I remember Bill coming home one day . . .

"Mary, Mary, MARRRRRY! I made it! The list is out and I made it—major below the zone. I made it! YAHOO!"

"That's great; no, it's fantastic, WOW! New car, here we come. When do we have the party? I can't believe it. You did it, Bill."

"I told you moving to Standardization would pay off, sweetheart. I know there was more work and I've been gone a lot from you and Little Bill, but it was all worth it in the long run. Oh, about the party; it will have to wait. I have a local checkride myself tomorrow, have to give one on Thursday, and all of us from the office are taking a Mildenhall turnaround on Friday. I don't see why we still have to log all that basic crewmember stuff. We teach it or check it practically every day. You'd think MAC would realize that it's a waste of valuable flying hours to keep all the FE's filling basic crewmember squares. We sure don't need the practice."

"I know," I said. "I've heard you say all that before; but the big boys must have their reasons, don't you think?"

"Yeah, it's because they're all too far removed from the real world out there at Scott. But then, everyone in our office knows that, so we'll just take our short trip and fill the squares. We know we don't need it, but it'll keep headquarters happy!"

I guess Bill thought things were going pretty much the way he had them figured. He always felt he could beat the system and get ahead. "All it takes is a little confidence in yourself," he would say. Was that what happened? Did he and the rest of the crew have so much confidence, or ego, or whatever, that they really were complacent? I can still remember that last week. From the very start, things seemed to go opposite to the way Bill had planned.

That first "little checkride" turned out to be a bit more than his original estimate. First, the aircraft wasn't ready because of a heavy home-station departure schedule that morning. But because it was only a local, and because the checkrides were very important to the wing, the crew didn't elect to call it a day after six hours of waiting. Even though the delay was a long one, the 21 AF flight examiner had arrived with enough crew duty day left to stay on board. Things went down hill from there. Some of the aircraft systems were not quite up to par and neither was Bill after pounding the ramp all day. The writeups dealt with minor areas of the checkride, but there were quite a few of them. Bill's comment was, "I'm just a little rusty in the fringe areas, and besides, that guy from 21st just picks on the nitnoy stuff anyhow."

The debrief after the flight was quite long, but everyone—in the squadron anyway—agreed that all Bill required was a little closer look at the books. Besides, the squadron really needed him for the next few days for other checkrides. They couldn't afford to have him in a training status for a week or two. Bill was sure he could take care of the small items. "No sweat," he said, "It was only a minor difference of opinion on how to use the engine fire checklist—no bold face stuff!"

We're in the last week of the last quarter with half of the training squares left to be filled.

The next day wasn't a whole lot better. Bill drew the same airplane and it hadn't improved much. Oh, sure, it was plenty safe for him to fly, but some of the "nice to have" items didn't work quite right and it messed up what he had planned for the checkride. They were several hours late getting off again, and he wasn't too pleased with the new pilot he was checking out. Bill's frustration level was peaking, but that night he reassured me, "I can handle it."

Was that what happened that last afternoon? Did Bill's confidence in himself, combined with the other crewmembers' confi-

dence in themselves, buy them a questionable machine and a flight that would never reach its destination? After all, they were superqualified flight examiners and the mission was only a simple Mildenhall turnaround.

That Friday didn't start out too great either. Bill went to the office a little early—four hours before alert time to be exact—to get some extra work done.

He called just before he went out to the aircraft for departure. "The secretary didn't type the Form 8 right the first time," he complained, "and I had to redo it—she went home at 4:30, of course." A typist he wasn't. Just as he was finishing it up, the squadron exec told him that the commander wouldn't buy a couple of the writeups. And where was the APR draft that was due for Senior Master Sergeant Rock? Seems that they couldn't find the one he had already submitted.

A quick scramble through his desk produced a copy of the roughest draft, but by now Bill was well behind in all the things that he had wanted to do before he left. It hadn't helped when the officer at the command post told him the bird was shaky, but not to worry because it had a firm ETIC. It was supposed to be fixed at show time, and the controller guaranteed that all would be well by then. Bill had been out to the plane to see how things were going. He said something about the fire warning system not testing right every time, but the crew chief told him that they had a handle on the problem.

He added, "All this happening and we're in the last week of the last quarter with half of those stupid squares left to be filled. I don't see how everybody could have used their instructing squares the quarter before."

But Bill was still riding the promotion-list high, and he knew that he could handle it all . . . regardless. Hadn't the promotion board shown the world what the Air Force thought of his abilities?

Bill had gone in early to get some office work done, but he was well behind by now.

That was the last time I talked to big Bill. Rumors were that they really had to push to make takeoff time, but it didn't do much good. A fire on board right after takeoff started their problems, however the "expert" crew handled them all and they kept the bird flying just long enough to avoid a housing area off the end of the runway. Everyone talked about how great a job they had done and how it would have been a real holocaust if those "experts" hadn't been on board. I always wondered if that was true, or if they had in fact taken on more than they should have?

I remember all these things as I see my son growing up and becoming more like his father. Almost everything Little Bill touches turns out right and he gets a little cocky now and then. But he's only 18, and I suppose it may be the overconfidence of youth. These past few years without Bill have been rough, but I've had a lot of time to think about things and to watch our son develop, and I pray he never confuses self-confidence with capability. All my tears won't change the past, but I can hope for the future. I can hope that Little Bill will keep the two separated, so that someday he won't needlessly leave someone behind.

ABOUT THE AUTHOR

Captain Sherrill is a native of Evansville, Indiana, where he attended the University of Evansville. After graduation and commissioning, he was assigned as a Satellite Simulations Officer, SAMSO, Sunnyvale, California. Staying in the Golden State, Captain Sherrill attended navigator training and then moved on to fly in HC-130's at Clark AB, Philippines. He spent another year in the Pacific as an instructor and evaluator aboard AC-130's. Returning to MAC, he qualified in the C-5 at Dover AFB, where he also became the first navigator assigned as a Command Post Senior Duty Controller. He has just finished a tour as OIC and systems analyst for computer flight plans at Global Weather Central, Offutt AFB, Nebraska, and is presently attending the AFIT Graduate School of Logistics.

Win Friends and Influence People

Want to win friends and influence people? It's a piece of cake with *The MAC Flyer* winning and influencing technique—better known as the 1979 MAC Flying Safety Writing Contest. By entering, you will not only earn the everlasting friendship of the *Flyer* staff, but the admiration of friends and supervisors who see your story printed in the world's greatest flying safety magazine. Imagine the ego boost when that special someone says, "Oh, sweetheart, I didn't know you were an author. How exciting!"

But more important, you have an opportunity to influence others with your story's safety message. Whether it's about something that really happened or is totally fictional—or a little of both—others in the flying business can profit from it.

As if this weren't enough, everyone whose entry qualifies for judging under the rules will receive a colorful C.R. Terror T-shirt. In addition, the top winners will receive handsome engraved desk sets or wall plaques. The rules are simple:

1. Anyone can enter.

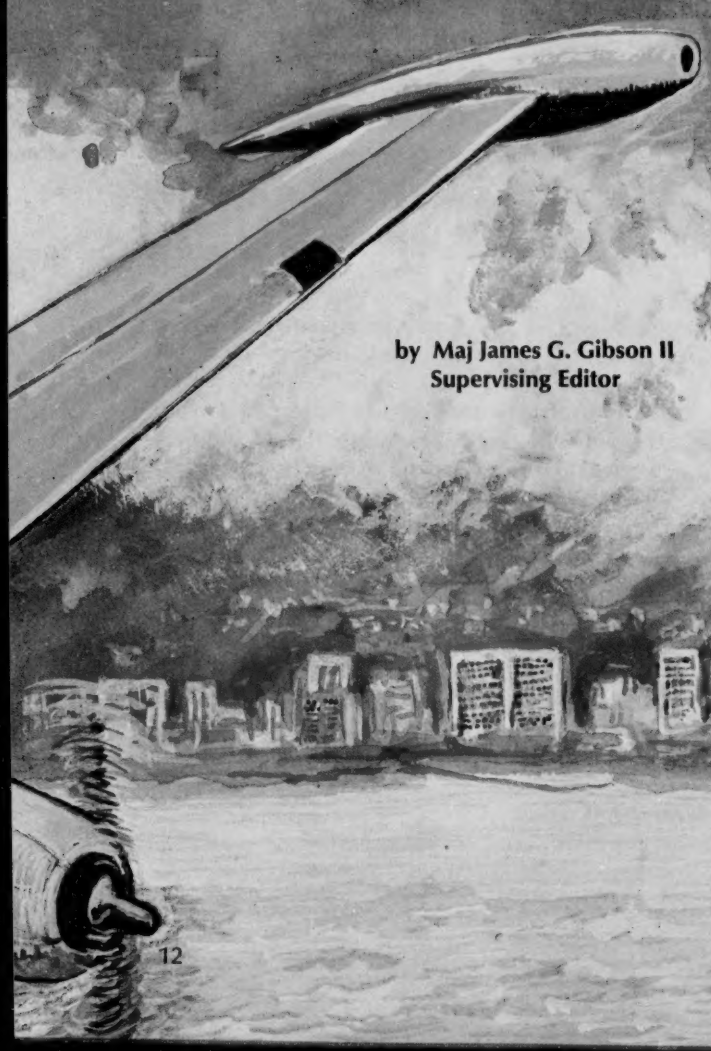
2. Entries may be true stories, fiction, or fantasy, but they must be original and unpublished and from 1,000 to 3,000 words long (that's about 6 to 14 double-space, typed pages). Poetry may be somewhat shorter. Just about anything with a flying safety message embedded in it is acceptable.

3. Make two copies of your double-space typewritten masterpiece and identify it by title only. Then put your name, address, T-shirt size, and short biographical sketch on a cover sheet and mail it before 31 March 1979 to:

Flying Safety Writing Contest
HQ MAC/IGFE
Scott AFB IL 62225

Ode to a "Shakey" Takeoff

Props and recips are fading into the past, but here's a Globemaster saga that still rings true today.



by Maj James G. Gibson II
Supervising Editor

We were drivin' a heavy Old Shakey
Outta Hickam one hot summer day.
The scene on the ramp was so muggy and damp
That the crew sorta wanted to stay . . .
Longer than twelve measly hours,
Which is all that the book would allow.
But our bird had a load and was set for the road;
There wasn't much we could say now . . .
Except "Transport, please get us a crew bus;
Pick us up at the snack bar posthaste.
Our flight planning's finished, grease level's replenished
And we haven't got time we can waste."

Out at a spot near the fuel pits
There's a plane that is bulbous and gray;
We'll quick-kick the tires, then light all the fires—
The command post has said, "Don't delay!"
Around here at old Hickalulu
Though the beaches and scenery are swell;
But while boarding Old Shakey, the crew felt real flakey,
'Cause it's hotter inside her than Hell.

Well, our one-twenty-four cranks up nicely
There's a roar and a big belch of smoke;
With the blades turning fast, we are ready at last
And right soon we'll be going for broke . . .
Down a runway that's heading us eastbound,
Just as quick as the tower says, "Clear!"
We put throttles to the wall and outbound we haul;
Now it's time we should suck up the gear . . .

But the old girl just keeps on a-rollin'
'Cause the moist heat is sapping her strength.
If we don't start to fly soon, we're all gonna die soon;
We are fast eating up runway length.

Even though all the charts told us different,
And promised us power to spare;
The question right now is to figure out how
We can get this old bird in the air.

Just when all hope seems lost there's a shudder—
The nosewheel's departing the ground
With a cheer from the crew, the big mains lift off too;
We are airborne; the relief is profound.

But the cylinder temps are all sizzling,
And our Pratt-Whitneys scream out in pain;
Our aluminum wreck is just clearing the deck
As we bank o'er the bounding main.

Altitude, we ain't got any,
And airspeed's alarmingly low;
We stay on max power for what seems like an hour,
But higher or faster's "No Go!"

The flaps are still set at one hundred,
Which matches the feet we are at;
In a large boat below someone waves a "Hello,"
Then he ducks as we blow off his hat.

From here on things start to get better.
The engine screams calm to a roar.
Waikiki comes in view and soon Diamond Head too;
And there's Koko Head tuned in the "VOR."

All the rest of the trip's uneventful,
Almost anticlimactic it seems;
Hot and dusty all day, not a cloud in our way,
And the boss in the bunk, "Pleasant dreams."

All is well till we land back at Travis,
Where our first stop is at ACP.
The Duty Controller says, "Hi there, High Rollers!
Here is something I want you to see."

'Cross the counter he tosses a message
With certain parts highlighted yellow;
What the AC's perusing he finds quite amusing,
"It says here I'm not a good fellow."

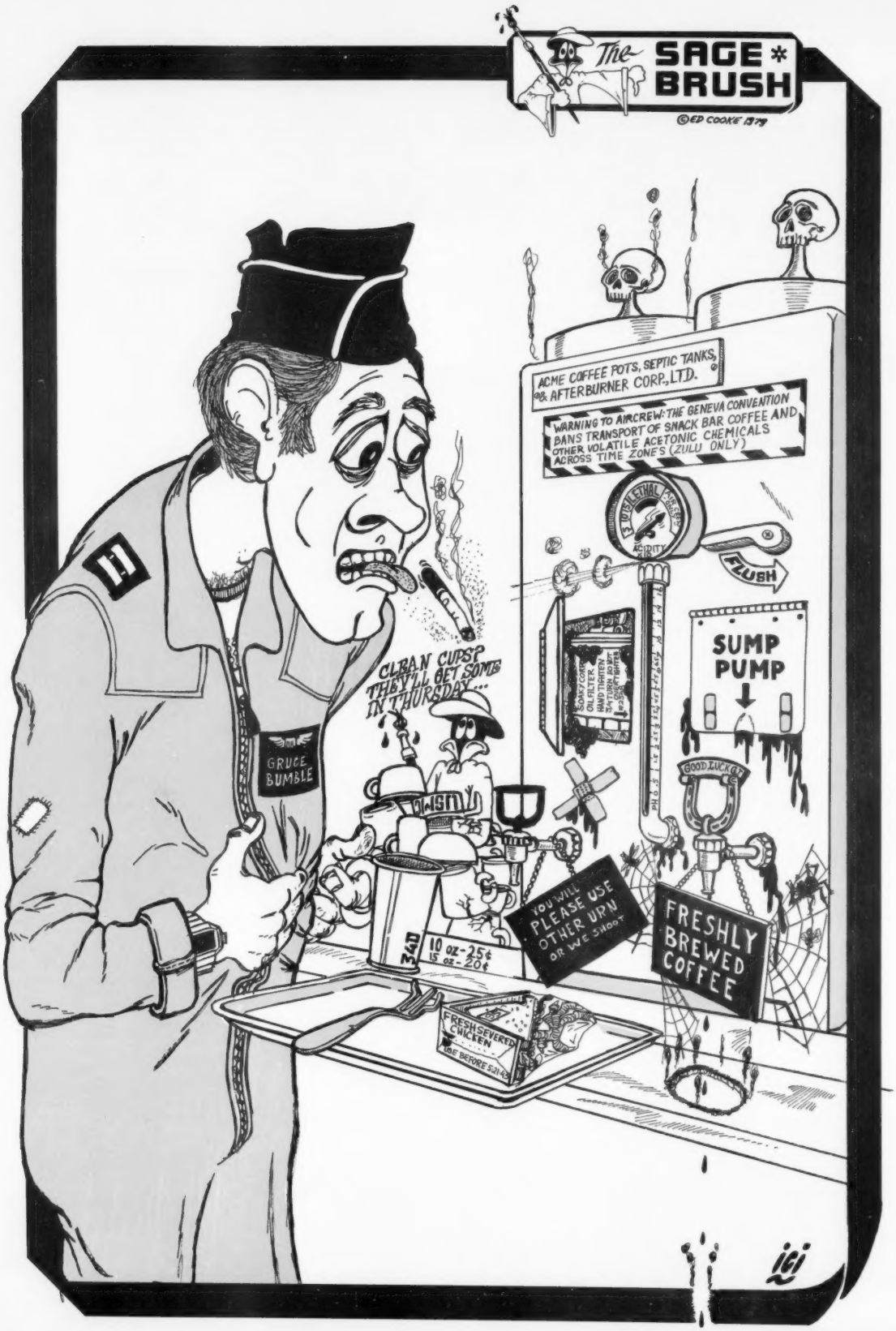
The bad news is from a full colonel
On top of whose yach-et we flew;
He claims when we passed, we near took off his mast;
And the sea turned his cap faded blue.

He's demanding our heads on a pike here and now,
Says that we should be keelhauled or worse
For buzzing the marina and causing a scene . . . ah!
It rattled his teeth and his nerves.

Old Shakey forgives most of our boners, lads,
But she does have her limits and such;
We loaded her down till she barely broke ground . . .
What we asked for was almost too much.

Somehow we kept that beast flying
With skill and cunning and pluck;
But I'll tell you for certain, we'd have really been hurtin'
If we hadn't had beaucoups of luck.

So pass my regrets to the colonel
I'll buy him a new cap, size five.
They may choose to flay me but that can't dismay me
'Cause I'm too glad to be here alive.


The SAGE * BRUSH
©ED COOKE '79
ACME COFFEE POTS, SEPTIC TANKS, & AFTERBURNER CORP., LTD.
WARNING TO AIRCREW: THE GENEVA CONVENTION BANS TRANSPORT OF SNACK BAR COFFEE AND OTHER VOLATILE ACETONIC CHEMICALS ACROSS TIME ZONES (ZULU ONLY)
FLUSH
SUMP PUMP
CLEAN CUPS? THEY'LL GET SOME IN THURSDAY...
GRUCE BUMBLE
GOOD LUCK
YOU WILL PLEASE USE OTHER URN OR WE SHOOT
FRESHLY BREWED COFFEE
10 oz - 25¢
15 oz - 20¢
FRESH SEVERED CHICKEN
USE BEFORE 5:21:45
igi

Maj Philip R. Hepburn, Jr., aircraft commander

Major Hepburn pulled back on the yoke and the C-141 rotated from the runway at Dover AFB. The slightly lighter feel of the controls was not unusual and gave no indication that anything was seriously wrong. Maj Philip R. Hepburn, Jr., and crew, all of the 335th Military Airlift Squadron (Associate), McGuire AFB, New Jersey, continued the climb to 33,000 feet in preparation for an Atlantic crossing to Rhein-Main.

Over Nova Scotia, the Reservists received climb instructions to FL 370. To their surprise, the Starlifter would not level off but continued to climb. Working with his copilot, Capt Charles F. Stites, Jr., Major Hepburn found it took excessive down-pressure on the control column and additional nose-down movement of the autopilot pitch control wheel to level the Starlifter.

Using the sextant, crewmembers were able to see the T-tail. The elevator was in the down position.

Major Hepburn declared an emergency and began a descent to FL 260 using a combination of pitch trim control and a great deal of control column pressure. Center cleared them back to McGuire. After leveling at FL 260, the nose-up trim indicated 6.5 degrees. As the Starlifter slowed to 220 knots, the trim increased to 7.8 degrees. During this entire period, the control column stayed within two inches of the instrument panel.

Once established in a holding pattern near McGuire, Major Hepburn initiated a Conference Skyhook and was advised to first lower five percent flaps and then ten percent, while at FL 260 and 250 knots. No loss of control was noted, so they descended to a lower altitude while attempting to decrease trim. At 17,000 feet with ten percent flaps, the crew ran the trim down while holding pressure on the yoke to maintain level flight. The yoke jerked suddenly as the trim was being adjusted, followed by near-zero control column pressure.

The yoke then moved back from the instrument panel to a near-normal position. An uneventful controllability check was accomplished with the landing gear down. As they descended to 2,000 feet, the trim again increased from 5 degrees to 6.5 degrees, but a successful landing was made.

Investigators found a sheared rivet in the elevator artificial feel rod assembly which caused the control column to jam in both the forward and aft positions.

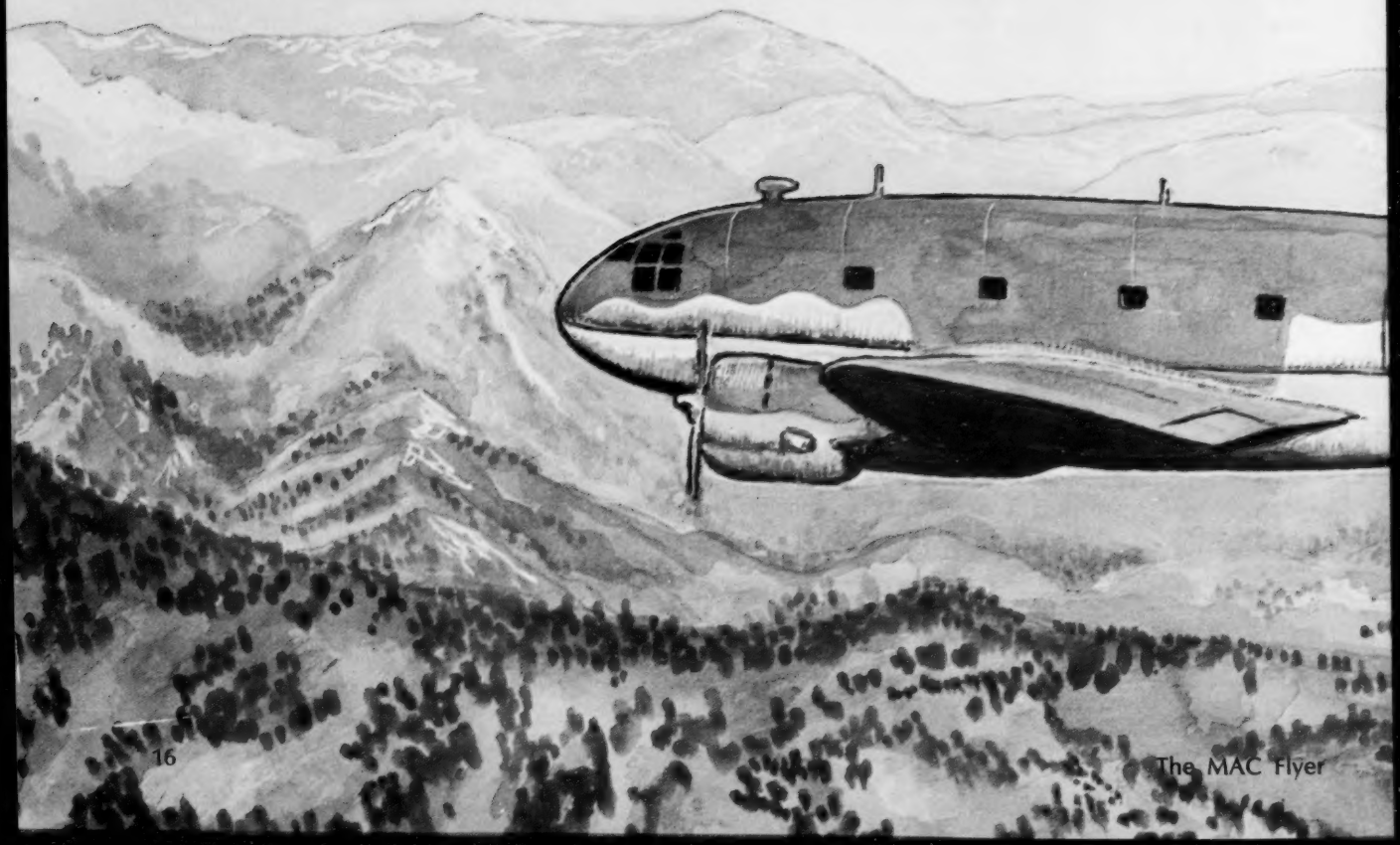
The outstanding airmanship exhibited by Major Hepburn and crew in combating a serious control malfunction prevented an aircraft mishap. Their professionalism in the face of a dangerous situation warrants a resounding "Good Show" from us all.

C-46 COMMANDO

Originally designed as a commercial transport, the prototype C-46 Commando was built by the Curtiss-Wright Company. The prototype was first flown in St. Louis in March 1940. Initially, the Army ordered 25 copies of the military version, but as the need for airlift increased during the war, over 3,000 more were built. The first C-46 was delivered in July 1942. Larger than the C-47, the Commando could carry a much greater payload and its high altitude performance was superior. This capability made it the prime airlifter during the famous Hump operation, flying vital supplies from bases in India over the Himalayas into China.

Its safety record during this operation was less than spectacular. Numerous problems plagued the aircraft from the beginning, and it never achieved the reliability of the C-47. A crew flying the Hump in a Curtiss Commando between 1943 and 1945 faced many dangers.

The Airlift Legacy



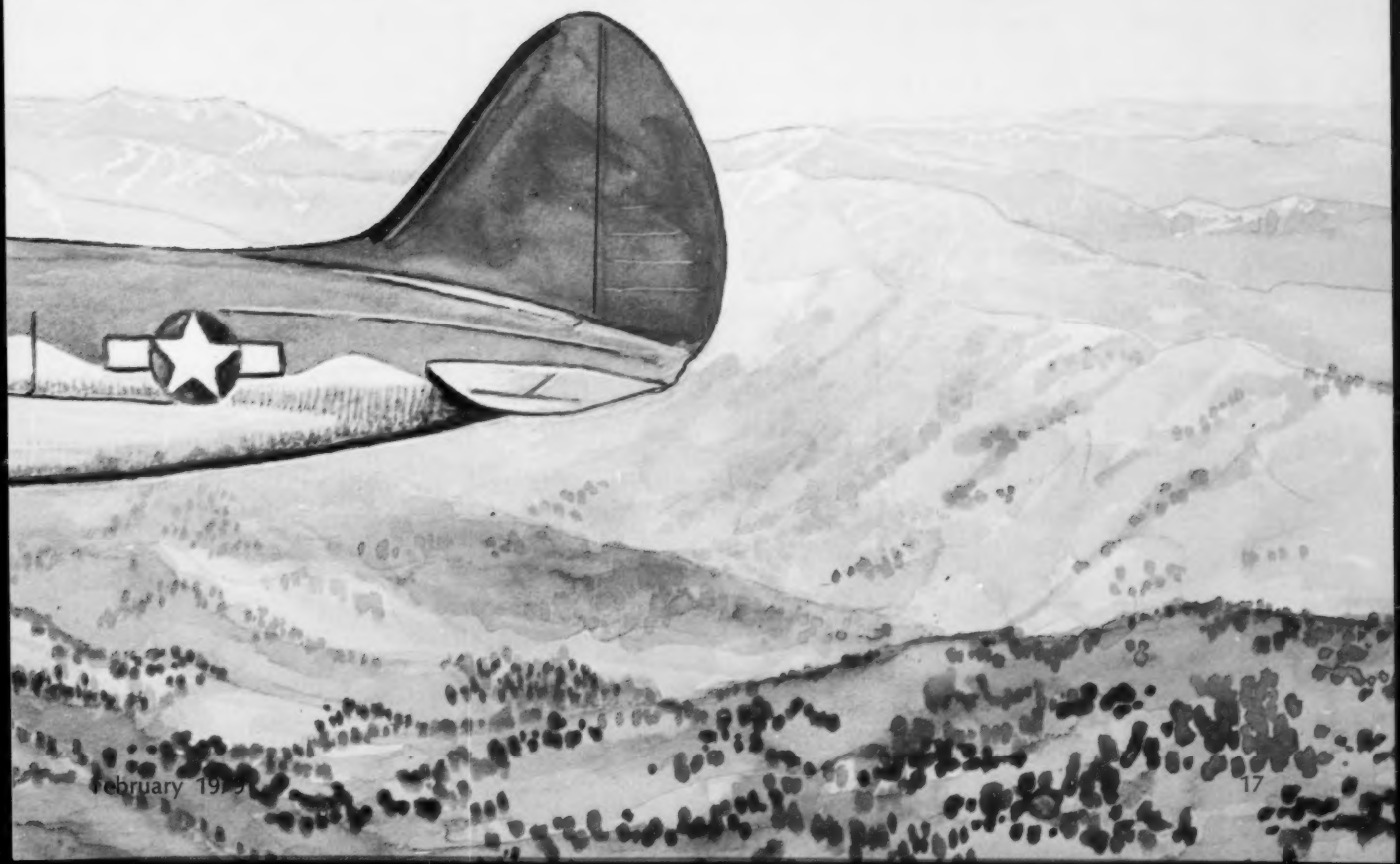
The 550-mile route over dense jungles and precipitous mountains became known as the "aluminum trail" because of the many aircraft that crashed along the way.

Nevertheless, "Ol' Dumbo," as the aircrews called the Commando, was considered a key airplane during the India-China campaign. The supplies it airlifted supported an entire theatre operation. The aviation gas, ordnance and spare parts alone enabled General Chenault's Flying Tigers to severely impede the advancing Japanese forces.

Many C-46's were used after WW II, especially with the Troop Carrier Command. Later they were flown in Korea. Some models were still in service with AFRES units as late as 1960.

Despite its inauspicious safety record, the Curtiss Commando was the star of the India-China airlift and will always be remembered as the plane that flew the Hump.

B. GAUSS • 1978



Flexible Flyer

Second Lieutenant Stephen P. Childers, Det 5, 37 ARRS, Malmstrom AFB, Montana, earned the MAC Distinguished Individual Safety Award for safely landing his disabled UH-1F which was carrying nine security police passengers from their support base to a missile launch control facility. Twenty-five minutes into the mission, Lieutenant Childers heard a loud bang; the aircraft yawed suddenly to the left and the low-rpm warning horn sounded. Reacting quickly to the engine failure, he entered autorotation and selected a forced-landing area. He transmitted a Mayday call, stating his position and the nature of his emergency. During the descent, he reevaluated the landing site and decided it was unsuitable for a safe landing. He then maneuvered to land in a nearby grassy field, adjusted the flare to avoid a fence, and successfully completed the emergency touchdown.

Alert Airman

The MAC Distinguished Individual Safety Award was presented to SrA Matthew R. McGuire, Det 5, 37 ARRS, Malmstrom AFB, Montana, for his quick action when he saw a civilian in danger of walking into the rotating tail rotor blades of a helicopter. Airman McGuire rushed to the civilian as he came within ten feet of the whirling blades and pulled him to safety. The loss of a life was prevented by Airman McGuire's speedy action.

15,000 Hours

Another MAC crewman attained the 15,000-hour milestone of safe flying: Lt Col Henry R. Parnell, Jr., 75 MAS, Travis AFB, California. Colonel Parnell received a letter of commendation from General Moore together with the 15,000-hour patches which indicate an outstanding accomplishment. Congratulations!

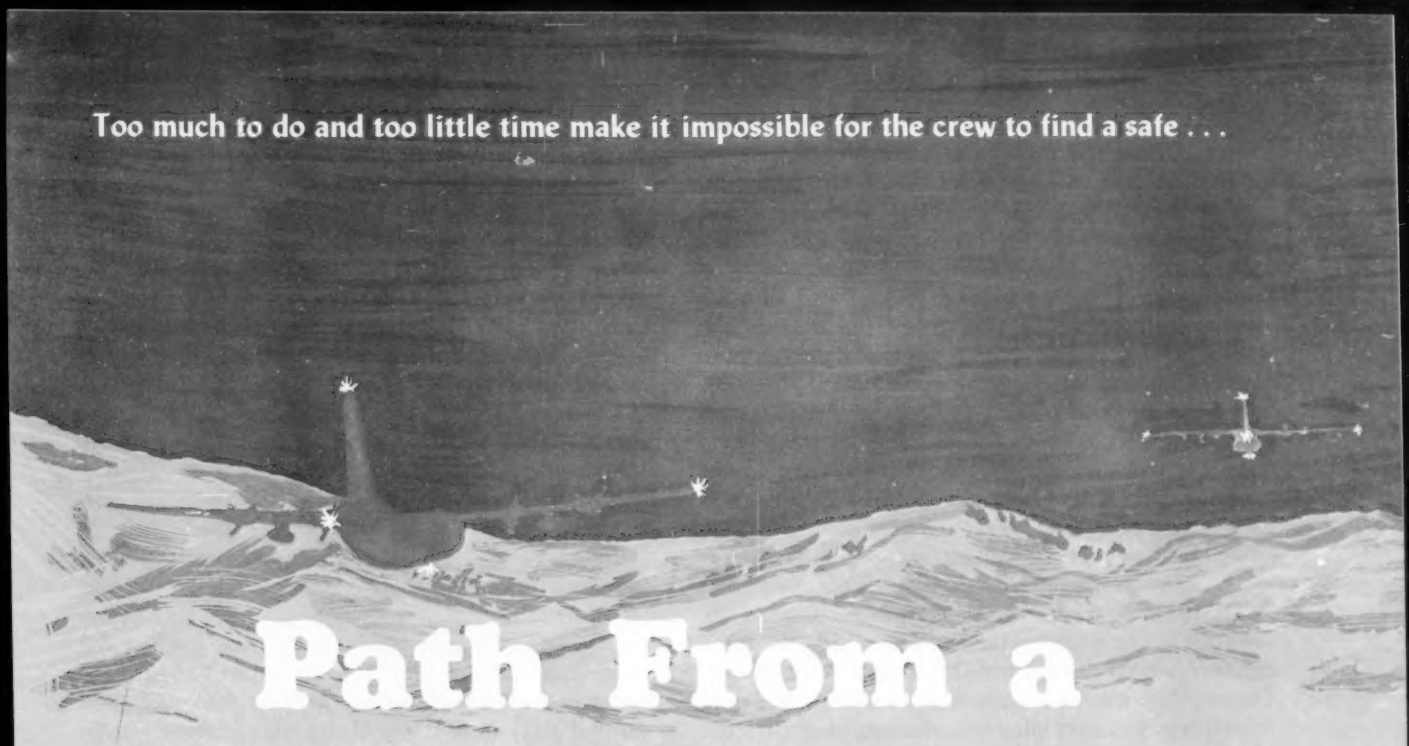
Fire and Oil

1st Lt Gerald A. Lee, Det 5, 37 ARRS, Malmstrom AFB, Montana, received a Congratulatory Message from General Moore for the way he handled an emergency situation. An electrical fire occurred when Lieutenant Lee started up his TH-1F helicopter. He immediately discontinued the start, turned off all electrical power, and egressed the passengers. He began fighting the fire with the aircraft fire extinguisher, and then a larger flightline fire cart. When the flames persisted, he reached into the burning area of the aircraft and disconnected the aircraft battery. After that he was able to put the fire out. An internal short in the engine starter had caused the reverse current relay contacts to weld shut, permitting electrical power to feed the fire even though the battery switch was off.

●

Capt Dennis V. Gavin and his crew, Det 13, 33 ARRS, Osan AB, Korea, also received a Congratulatory Message from CINCMAC. During an HH-3E night overwater air refueling training mission, the flight mechanic found oil leaking from the main transmission. The crew turned back toward shore, but when the leak became worse, they prepared for an immediate landing. They located a small island and, as the transmission-oil-pressure caution came on, scanners found a suitable landing area. A successful landing was made on the dark, remote island.

Too much to do and too little time make it impossible for the crew to find a safe . . .



Path From a Black Hole

I stood by the dirt road with the other safety board members, staring incredulously at the half mile of twisted and scorched debris in front of us. Less than 24 hours ago, the metal in that pile had been a four-engine transport aircraft and the trees and grass had been disturbed only by autumn breezes.

You just can't get ready for a scene like this. There's no briefing, no movie—not even a formal school—that can prepare you to walk through an aircraft crash site. However, I want to tell you about it—not to horrify you, but to try and keep you from making the same kind of mistakes that ultimately brought me here.

I noticed that several trees north of the road had been sliced off at ever-decreasing heights. Facing away from them, I first saw a large burned area and then a patch where the grass was still green. Finally, there was another large oval of scorched earth, ripped trees, and torn metal which ended at the bottom of a small hill.

It was time to count. We'd have to locate all the major aircraft parts and later we would accurately survey the crash site. I scribbled a note on my clipboard to go back and measure the topless trees and then moved forward in slow deliberate steps to avoid disturbing any piece of wreckage before it was examined. At this point it was impossible to tell what was significant. After about 30 steps I reached a large hunk of metal. Looking it over, I decided that it was a piece of wing and aileron. Another ten steps farther on I found a piece of wingtip with fragments of a position light still attached—they were red. It was the left wingtip and that probably was the left wing and aileron a few yards back. There were a lot of small parts scattered throughout the burned area and the board members bent down to study each of them—scratching occasional notes as they went along.

The untouched patch of grass was a mystery. Sixty more paces across the undisturbed turf brought us to the biggest wreckage pile.

Here the ground was severely burned and scarred by the impact. Looking across this burned out swath,

I saw a large piece of center wing, the cargo compartment floor and—perhaps 1,000 feet away—the empennage. The tail, in its normal vertical position, sat there apart from the rest of the wreckage like a silent memorial to the men who take to the air in machines.

Our initial survey was completed just before dark. We had found both wings shattered sequentially along the trail of destruction, left wing first. The fuselage, and cockpit had disintegrated on the lower part of the rocky slope. All four engines were found along a line that was roughly perpendicular to the fuselage and a few hundred feet beyond the main wreckage pile—their greater mass having carried them farther after the impact.

Back in our board room we talked over what we'd found and what we needed to accomplish the next day. The investigator and I would look at the aircrew's records and possibly start talking to witnesses. The maintenance officer would start sorting out the pieces that needed to be analyzed, and the flight surgeon would begin going over the crew's medical records.

I started early the next morning. The pile of paper already on the table was astounding. I remember thinking that the old adage might be true: "The investigation isn't complete until the weight of the paperwork equals the weight of the aircraft."

After studying the forms for most of the morning, I had a better feeling for the crew and its mission. The ill-fated aircraft was part of a four-ship airdrop formation. The crew was doing local upgrade training. They were to participate with the formation in three visual routes to the local drop zone and a return to the base. Back at the field they were scheduled for two visual recoveries to low approaches and, finally, departure on an IFR route. It was a demanding scenario, and the number three transport crashed while maneuvering for the second VFR recovery. All seven crewmembers perished on impact.

The ops paperwork was in order. There were three pilots aboard the mishap aircraft: an IP, an AC upgrade, and a copilot. Each crewmember's 846 showed that he was well qualified. I felt initially that the accident couldn't have been due to aircrew error—the crew appeared competent and the planning was well done. Personally, I secretly hoped that the engineers would find something seriously wrong with the machine.

After lunch the board reviewed the written statements of the witnesses and decided whose testimony we'd need to hear. The maintenance officer told us that most of the powerplant pieces had been rounded up and moved to a hangar. Representatives from the Air Logistics Center would scrutinize them tomorrow. Local experts from QC had gone over the flight control systems with the maintenance member and they hadn't found anything that looked out of order. However, the rudder pack was being prepared for shipment to the ALC for further analysis. Outside of some minor administrative errors, the maintenance documentation on the airplane was in good order.

On the third day we started interviewing witnesses. The wreckage itself wasn't much help in telling what had happened that night, but the other aircrews in the formation completed the picture pretty well.

The AC in the first ship told about leading the last drop and the first recovery. After the low approach, he had climbed to 1,500 feet AGL and turned away from the field. He remembered watching the other aircraft start to move across the station keeping PPI as the formation rejoined, and recalled that number three was about 3,000 feet out of position and number four was about 8,000 feet out when he started his turn back toward the base.

I asked why he had started what seemed like an early turn. Simple answer: time compression. If the formation was to get the two recoveries finished before they had to leave on the IFR route, then they would have to turn back toward the runway before rejoining.

The copilot recalled seeing number two's blip on the PPI follow them into the turn. Suddenly, they noticed another blip appear, approaching from the left at about an 80-degree angle. It merged with number two's target, and a second later somebody said on the radio, "An airplane just crashed!"

The crew of the second transport had seen the crash. The AC observed an airplane pass below his. Then the transport started back toward the inside of the turn. He feared that the wandering wingman might climb slightly and fly into them.

Seconds later, they watched helplessly as number three's lights illuminated the trees below just before impacting the hillside. Number two's engineer remembered seeing the aircraft cartwheel above the trees.

The crew of number four didn't observe the prelude to the mishap. But the reason they didn't see number three's troubled attempt to get rejoined helped us determine some of the whys of the acci-

dent. Number four's pilots said that 95 percent of their attention had been devoted to their flight instruments and SKE scope during rejoin because of the lack of visual cues. The sky was devoid of moon or stars and the countryside had very few lights. A light fog in addition to these conditions made the horizon virtually impossible to find. The flight surgeon provided a label for this phenomenon: the black hole.

The safety board spent the rest of the fourth day interviewing witnesses. A couple of squadron IP's talked candidly about the training programs and the qualifications of the crewmembers involved in the crash. We asked the unit commander and ops officer about their policies and procedures. From this testimony we learned that the unit's management was good, but that there had been an underlying push to get as much training out of every mission as possible.

When we received the engineering analysis of the powerplants and the suspect rudder pack, we learned that all four engines were operating at near-maximum power when the airplane hit the trees and the rudder pack checked out okay.

We continued to sift through a mountain of evidence for the next week, considering each element of the accident: machine, mission, medium, men, and management. Of these five, only the machine was above reproach. The aircraft had served its crew faultlessly until the moment they caught its left wing on a tree.

On the last afternoon, while we were discussing our investigation, the board president summed it up pretty well. "Here's the way I see it," he said. "The crew just had more than they could handle. They were on a demanding mission—it was severely time constrained. In the left seat was an AC upgrade with the IP standing behind him; the doc proved that. The copilot didn't have a lot of experience, even though he was qualified.

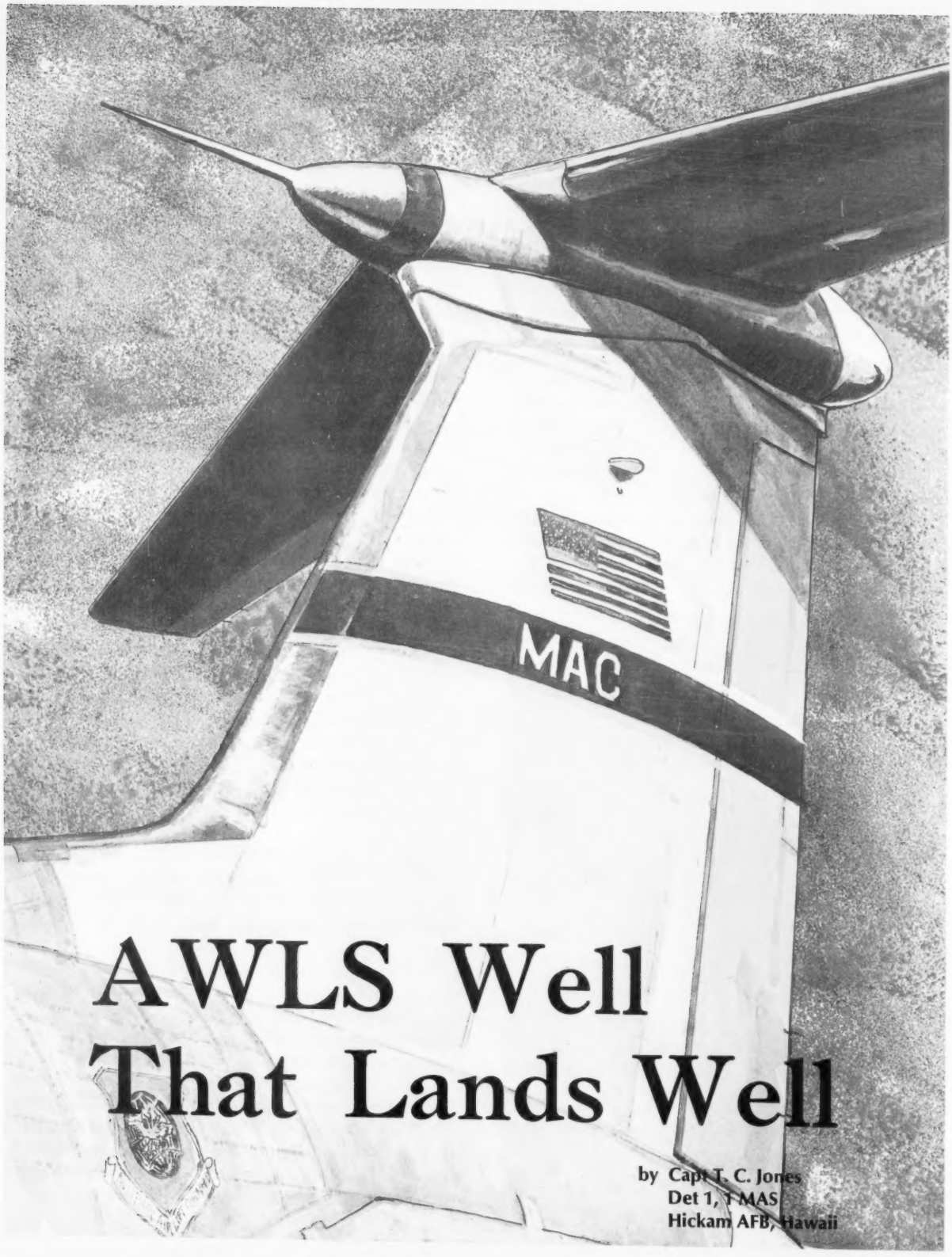
"They were already being overcome by events when they started the night rejoin. As they turned away from the air base they were faced with a horizonless sky and the task of getting into position rapidly. Then the lead airplane turned into them and altered their cutoff angle so that they closed on the formation very quickly—much faster than they'd expected.

"The left-seater and the copilot had probably never experienced this situation before. The IP probably had seen a night turning rejoin overrun before, but he couldn't get his hands on the controls and things happened too fast for him to talk the pilots out of the spot they were in. Starting to react on instinct, or concepts retained from pilot training, the pilot descended to miss number two and moved outside of the turn. When the closure rate looked right he may have tried to move back into position. Passing back under two, he just didn't notice how close he was to the ground."

We all sat quietly for a long while after the colonel finished; he'd just about said it all.

The crew should never have had the opportunity to get into that situation. Other people besides the unfortunate pilots had made bad decisions and those factors were noted in the report.

And what about the mysteriously unscathed clearing in the middle of that path of destruction? When its left wing clipped the trees, the big transport flipped around so that the tail pointed in the original direction of travel. It went about 200 feet in the air, leaving the clearing before the right wing dug into the hill. From there the airplane disintegrated. After breaking away, the empennage traveled 75 feet further in the air before coming to rest in the spot where it mutely marked the end of the crew's path out of the black hole.



AWLS Well That Lands Well

by Capt T. C. Jones
Det 1, 1 MAS
Hickam AFB, Hawaii

Dependable equipment and professional performance save a life.

This C-141 story began on a mission from Nurnberg to Frankfurt last year. Our crew was augmented by one from another wing and the aircraft commander was riding the jump seat. After landing at Frankfurt, he asked me a question I had heard before. He wanted to know why McChord crews had the habit of using the All Weather Landing System (AWLS) equipment on every ILS approach. Naturally, I gave him my standard simulator instructor answer. We use the equipment to find system faults so the reliability will be better and to provide some practice on AWLS procedures. I'm not sure he was convinced but, a few months later, I had an experience that would make a believer out of almost anyone.

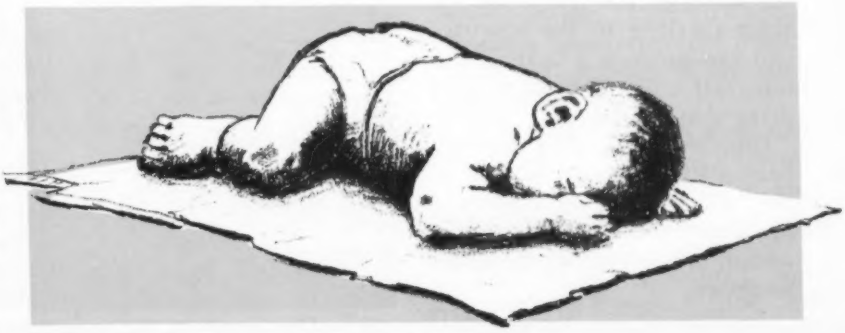
We arrived at Elmendorf for a scheduled crew rest followed by a passenger mission to Scott. When we got to the command post window, we learned we were prime candidates for an urgent airevac mission back to McChord. The patient was a premature baby, less than a day old, with respiratory and other problems. The forecast weather at McChord was guaranteed beautiful, but we loaded 90,000 pounds of fuel for two reasons. First, the baby's condition restricted our maximum altitude to FL 210 and, second, I have certain reservations about winter weather forecasts for McChord.

Soon we were airborne with the tiny baby on board, his breathing and heartbeat monitored by lots of electronics and two very apprehensive Army doctors. About two hours from our destination, my worst suspicions about the weather were confirmed. McChord, Sea-Tac, and Boeing were all below minimums with fog, leaving us no place to go west of the Cascades. The doctors said the baby really needed to get to a large military hospital, and the next closest choice was Travis. After a lot of calculation, we came up with a plan. We wanted to arrive over McChord with enough extra fuel to try one approach and still have enough to go to Travis. We had to slow down some to make it, but we all agreed the time lost would be worth it if the McChord weather came up to CAT II ILS minimums.

Over Victoria, British Columbia, we found that the McChord weather was up to an RVR of 1,800; the required minimum was 1,200. We requested descent and vectors from Seattle Approach. The controller was so surprised that he repeated the weather twice before giving us a clearance. Just prior to the approach, things got a little tighter. The RVR was right at 1,200, and the copilot had an interesting question. He wanted to know just what he should see at decision height. I told him that the picture would probably be two sets of approach lights, with the strobe showing through pretty well. The copilot had never experienced an actual CAT II ILS, and I told him if he had any doubt about what he saw, to call, "Go around," and we'd head for Travis. I can't really describe what we saw at 100 feet, but it was enough. I will say that it took a "Follow Me" to find the ramp, and the RVR during taxi-in was 800. When we opened the troop door to offload the baby, his father took a look outside and was speechless for a long time.

I know that the baby came through just fine, and we had a pretty good feeling about completing this life-saving mission. It also gave our confidence in the AWLS system another boost.

I advocate using the AWLS at every opportunity so that maintenance can keep it in top condition for times when you really need it. Also you'll feel more comfortable with the CAT II procedures if they are at least as familiar as the PAR back home. It can pay off big—it did for us and our tiny passenger.



Deja Vu*

*(day-zha-voo), [Fr. lit., already seen], the illusion that one has previously had a given experience.

Kirtland AFB shares the aerodrome with Albuquerque International Airport. Located just south of the city of Albuquerque, New Mexico, the airfield sits on a flat mesa bordered by mountains to the east, northwest, and southwest. The Sandia and Manzano ranges to the east have many peaks over 7,000 feet MSL. The tower on the top of Sandia peak 12 miles northeast, is the highest point in the area. Reaching 10,877 feet, it's over a mile above field elevation. Because of this high terrain, departures to the east provide less than standard departure obstruction clearance. Field elevation is 5,353 feet, so takeoff performance is reduced considerably.

Combined commercial and military operations produce high density air traffic. In addition, two smaller airports ten miles north generate considerable VFR operations.

The field has four runways, the primary instrument runway being 08. Although 300 feet wide, the steep up-slope to the approach end can produce a landing illusion that could contribute to a dragged-in approach.

Lofty terrain, landing illusions, heavy traffic, and high field elevation all combine to present a significant challenge to aviators who fly into this part of the scenic Southwest.

—Adapted from ISD-Q6-366(1)

Kirtland AFB New Mexico
(Elevation 5,352 feet) *Albuquerque IAP*

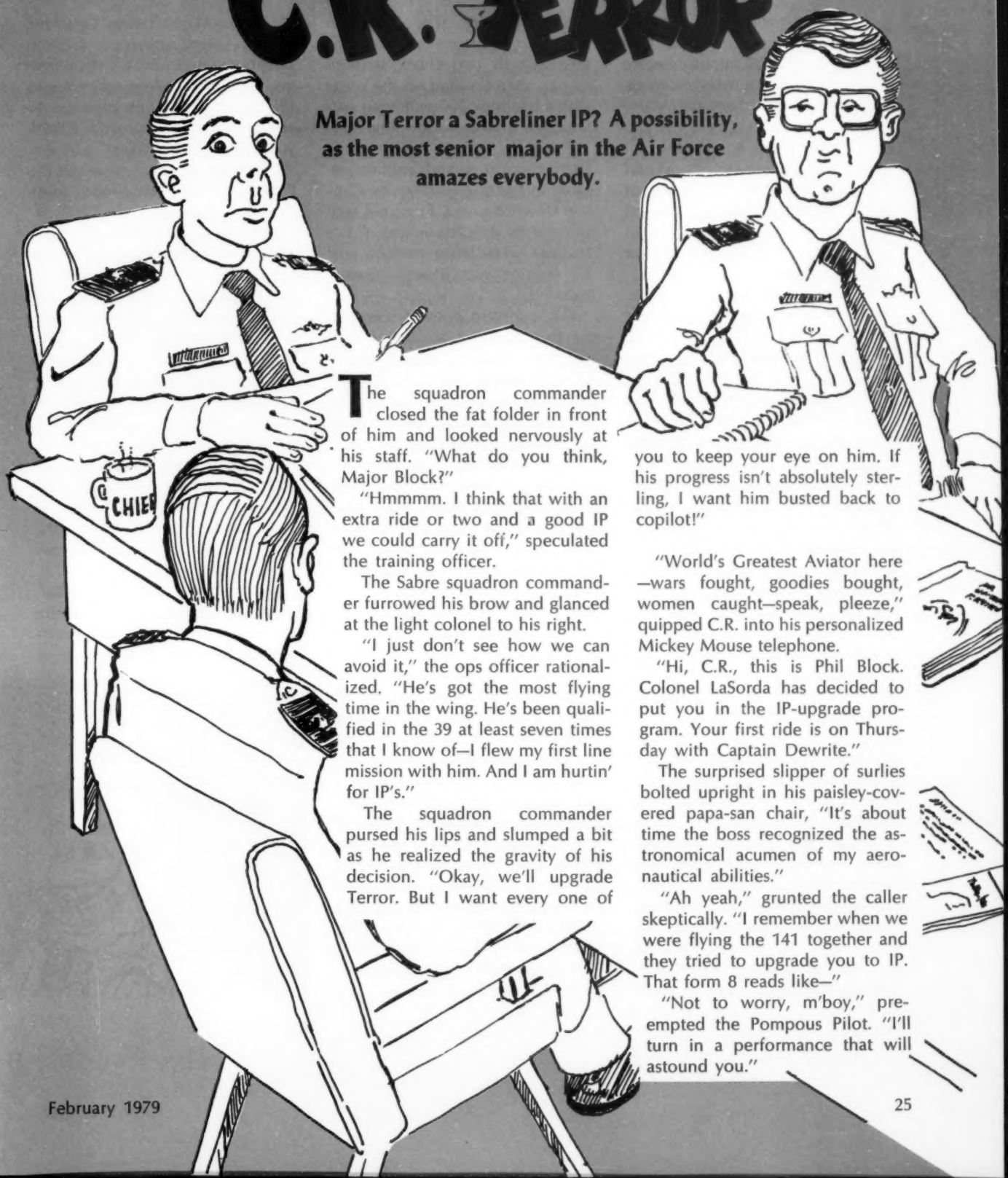
On short final for 08, rubber deposits make braking action marginal when the runway is wet. Note the rapidly rising terrain to the east of the airport.

The approach to runway 26 crosses high terrain and may require a steeper than normal final approach.

On final for runway 35. The commercial airport terminal is to the left; Kirtland AFB to the right.

C.R. TERROR

Major Terror a Sabreliner IP? A possibility, as the most senior major in the Air Force amazes everybody.



The squadron commander closed the fat folder in front of him and looked nervously at his staff. "What do you think, Major Block?"

"Hmmmm. I think that with an extra ride or two and a good IP we could carry it off," speculated the training officer.

The Sabre squadron commander furrowed his brow and glanced at the light colonel to his right.

"I just don't see how we can avoid it," the ops officer rationalized. "He's got the most flying time in the wing. He's been qualified in the 39 at least seven times that I know of—I flew my first line mission with him. And I am hurtin' for IP's."

The squadron commander pursed his lips and slumped a bit as he realized the gravity of his decision. "Okay, we'll upgrade Terror. But I want every one of you to keep your eye on him. If his progress isn't absolutely sterling, I want him busted back to copilot!"

"World's Greatest Aviator here—wars fought, goodies bought, women caught—speak, pleeze," quipped C.R. into his personalized Mickey Mouse telephone.

"Hi, C.R., this is Phil Block. Colonel LaSorda has decided to put you in the IP-upgrade program. Your first ride is on Thursday with Captain Dewrite."

The surprised slipper of surlies bolted upright in his paisley-covered papa-san chair, "It's about time the boss recognized the astronomical acumen of my aeronautical abilities."

"Ah yeah," grunted the caller skeptically. "I remember when we were flying the 141 together and they tried to upgrade you to IP. That form 8 reads like—"

"Not to worry, m'boy," preempted the Pompous Pilot. "I'll turn in a performance that will astound you."

Captain Dewrite was shocked to find his Infamous Instructee waiting for him 20 minutes before show time on Thursday morning. "It's a pleasure to meet you, Major Terror," he offered.

"I should think so. Shall we sit down and go over today's events? I'm sure that after a couple of hours in the tiny-liner with me you will be ready to recommend me for a check," replied the Flatulent Flyboy.

"Okay. We do have a lot to go over on these missions: takeoff data, aircraft systems, FLIP, simulated emergencies, IP-only maneuvers—"

"No sweat," interrupted the Stout Student. "I've been bookin' it for the last two days—not that my powered-flight prowess really needs it—and I'm fully familiar with all the trivia relating to our brand of aviating."

The intrepid instructor began to probe C.R.'s knowledge and was pleasantly surprised to find that the Portly Pilot understood the aircraft well. However, when the young IP started to go over the MAC regs and supps he was astounded. Not only could the Ace of Aerospace recite the letter of the law, he also glibly recounted the history of every restriction. It almost appeared that C.R.'s boast, "I wrote the book," was credible.

During the first flight all the bad rumors that Dewrite had heard about the Field Grade Fumbler seemed to be ill founded. The instructor was amazed when the would-be IP competently handled a simulated-single-engine circling approach from a back course localizer. The Sabreliner Sultan set a personal milestone by missing only two checklist items all day, then finished off the sortie with a textbook 360-overhead pattern to a grease-job landing.

After debriefing a few small technical errors and passing on some instructing techniques, Captain Dewrite gave C.R. a bold face emergency procedure test. C.R.'s answers were letter perfect, and his mentor was literally dumbfounded.

C.R.'s second mission was better than his first and on Friday afternoon Captain Dewrite found himself seated nervously in the ops officer's cubicle. "This is hard to believe, Captain. Are you sure that Terror is ready?"

The instructor squared his shoulders. "I have to call 'em like I see 'em, sir. I hadn't flown with Major Terror until yesterday. I can't believe that he's as bad as his reputation—he didn't do a thing that Mother MAC herself wouldn't be proud of."

"Are you absolutely sure?"

"Yes, sir."

"Okay. We'll schedule him for a checkride on Monday. Captain Dreary ought to be suitably skeptical about his skills to give him a realistic evaluation."

The Bulbous Bumbler bounced into base ops at midday on Monday with a countenance radiating confidence. As he rounded the corner into the flight planning room he stopped in mid-waddle and his face fell. Smiling at C.R. were two familiar faces. One welcome; one not.

"Hello, Major Terror," growled Major MacZaminer. "Captain Dreary went DNIF over the weekend, so the squadron asked me to fill in. It will be my pleasure to administer a check to you. I think you know Captain Sam."

"Sammy, m'boy," beamed the Prospective Proctor. "How come I'm instructing you today?"

"Just took my check after CTF and got a 'qual two' on single-engine ILS. You're supposed to let me demonstrate a couple done the right way."

"Sounds simple enough, lads. Let's go over to the snack bar via the weather shop," suggested C.R.

"You sure you want to do that?" warned the steely-eyed stan-evaluator.

"Certainly, sir. Sam doesn't mind. He knows I have a weakness for green-chili burritos, and this is Hispanic food day at the snack bar. Grab a low altitude approach book, Sam."

Between mouthfuls, the Galumphing Gourmet briefed the mission requirements and conveyed a few priceless techniques

for shooting approaches less one engine. Major MacZaminer began taking notes. After gleefully gorging his gullet, the Aviator with Avoirdupois allowed as how they should file a flight plan and be on their way to the airplane.

The Portly Pilot wedged his way into the right seat, Sammy assumed his unaccustomed position of left-seat pilot, and the Major from MAC stood in the cockpit doorway of the Sabreliner. C.R. passed a pudgy pinkie along the checklist, seemingly coordinating raucous belches with Sam's responses.

The Dynamic Duo, plus evaluator, were soon winging their way toward State Capitol Muni. After leveling at 15,000 feet, the Impending Instructor began acquainting Sam with the finer points of the expected approaches. "Okay, Sammy, when we start down, I'll get clearance to the VOR for two turns in holding and then we'll execute the ILS to 19. Of course, I'll have to toss in an emergency."

"Right, Boss," sighed the Long Suffering Student. "Give me the descent checklist, please."

Sam gave a good crew briefing and C.R. made his way through the rest of the checklist just before the controller cleared them to 5,000 feet. Major MacZaminer found himself grudgingly making another affirmative entry in his notebook.

After they leveled off, C.R. announced, "The right oil pressure is reading 95 psi—simulated."

Sam pulled the number two throttle to idle and directed, "Do the oil-system-failure checklist."

"Right you are, m'boy," encouraged the Magnificent Motivator as he deftly flipped his checklist open. Between checklist items, C.R. handled their descent and holding clearance with minimal verbiage.

The Sabreliner passed the VOR and Sam banked it left to intercept the teardrop course outbound.

"How long we goin' outbound?" questioned the Terrorific Trainer.

"One minute."

"Right again!" exclaimed C.R. with a glance at the evaluator. MacZaminer maintained his poker face. The Paunchus Pilot finished the engine - shutdown - inflight checklist and confirmed, "Clean-up checklist complete."

Sam banked the 39 to the right. C.R. glanced at the centered CDI on the left-seater's instruments. "Hold it! Shouldn't you be turning left; holding airspace is to the west."

"No, sir," corrected the perplexed pilot. "I intercepted the teardrop course—I'm a little slow setting up the inbound leg."

"Just checking your horizontal orientation," excused the Ace of Alibis, glancing over his left shoulder at the master measurer from MAC.

"Major Terror, I've got one for you now," interjected MacZaminer. "Back when you simulated the crossfeed-tank-selector switch to crossfeed, let's say the crossfeed valve and fuel-pump-crossfeed valve failed to open. How many and which warning lights would be on, and what are you going to do?"

"Well, that means we'd be hurtin' for gas," belched the Global Gastronome. "We'd make this approach to a full stop."

The stoic stan-evaler raised his eyebrows.

"We'll have to simulate landing from this one, Sammy," briefed the right-seater. "It'll be a monitored approach to simulated minimums; the real weather is VFR. You fly the approach and I'll watch. At minimums I'll either tell you to go around, which you'll do, or I'll take the airplane and land." The Verbose Advisor added, "Just a little technique I picked up from one of my airline-pilot friends."

"Chubby 03, you're cleared for the ILS, maintain 3,000 till passing Senate VOR," interrupted the controller. "Call the tower at the marker."

C.R. rogered the instruction and grabbed his Dash One. "Just gonna check the book on those lights," he advised the square-jawed justifier behind him.

"Call the marker, Boss," reminded Sam.

"Thanks, Sammy, you're really sharp today," replied the Tena-

cious Tutor with a wink at MacZaminer.

The tower cleared Chubby 03 for the option and advised, "Use caution for departing Cessna Citation from runway 04."

"Chubby 03, roger, gear down," droned the Bumbling Book Reader as he studied the fuel system schematic.

Sam concentrated on the gauges and flew a near-perfect ILS approach. C.R. turned to Major Mac, "I figure we'll have three warning lights on, but I don't know of anything in particular to do about them."

The stone-faced evaluator's look changed from calm to considerable concern as he pointed toward the right windscreen and screamed, "You'd better do something about that!"

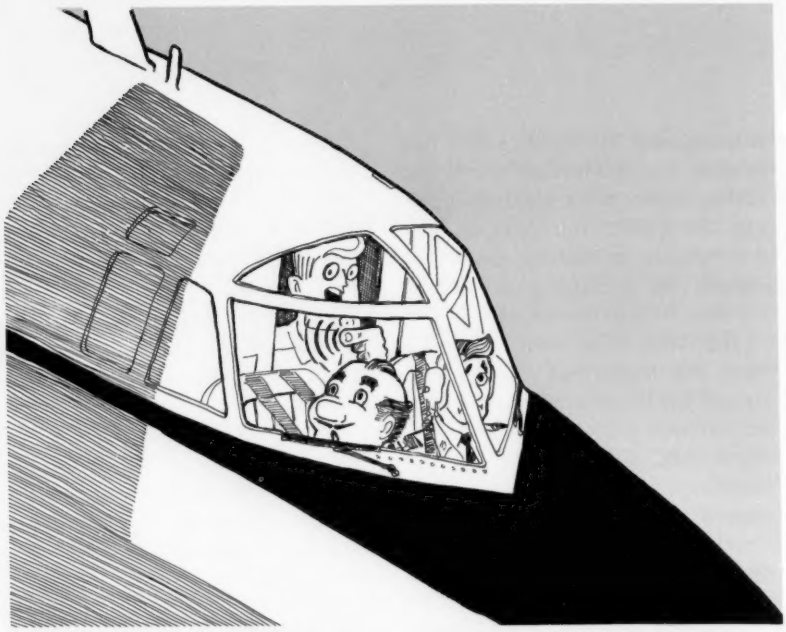
C.R. glanced up just in time to clearly see the white shirt, brown tie, and USAF-style sunglasses of the Cessna's right-seater. He seized control of the Sabreliner and racked it into a three-G descending right turn. As the Citation passed overhead, the traumatized trio heard a sickening "thunk."

"Tower, we've been hit! We're going in!" transmitted the Scared Skipper, his voice rising two octaves between phrases.

"Take it easy, Boss," soothed Sammy. "We're still flying. Level it off and land."

The Mini-liner Mentor managed to get the injured 39 back on glidepath and make a survivable landing.

That evening, C.R. sat facing an intimidating array of officers. Across the table were Major MacZaminer, Lieutenant Colonel La-



Sorda, and a colonel from the Air National Guard. The Guardsman began, "I'm really disappointed in you as an active-duty aviator. From what the major here says, you had your head down and locked during the entire approach. Fortunately the Governor's airplane received only minor damage, but you just about scared the pants off him and the Adjutant General."

"But we were on an IFR approach," C.R. protested.

"Heiferdust," replied the colonel. "You were also VFR and were advised of possible conflicting cross-runway traffic."

"You'll be lucky if you only have to pay for the VOR antenna that was chopped off the 39," estimated the squadron commander. "And as far as your IP checkout—"

"Can I tell him?" interrupted Major MacZaminer.

"Well, sure, Major. You've got to make the writeup."

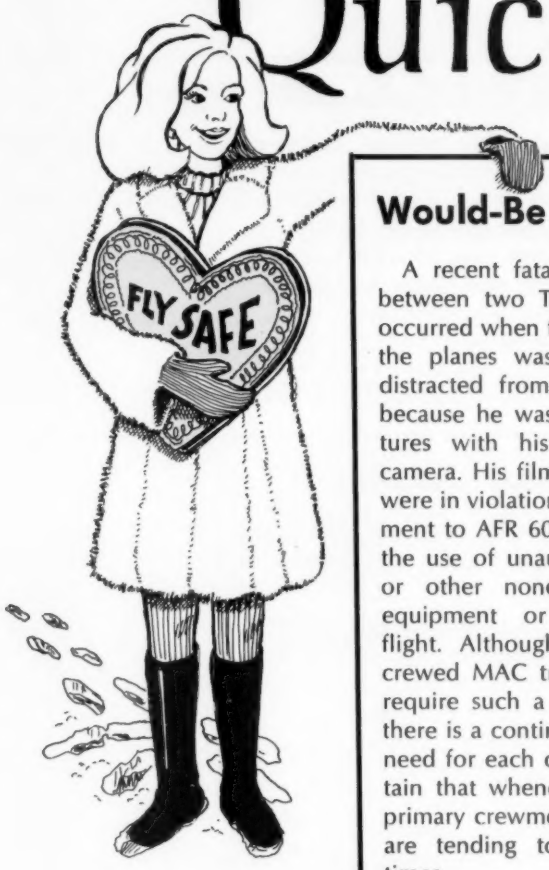
"Major Terror," MacZaminer said with an almost sympathetic tone, "I've never seen anybody make as much improvement in instructional ability as you have since I gave you that C-141 check a few years ago. However, you forgot the other part of the IP's job—being a pilot—and nearly got us killed! I'm recommending that you familiarize yourself with right-seat duties before requalifying in the left seat."

Sammy and C.R. next met on Wednesday in the squadron.

"I really think they were too hard on you, Boss," Sam observed. "Busting you back to copilot, making you special assistant to the ground training NCO and all."

"It's not so bad, m'boy. We've got a lot of young AC's in the squadron that can still benefit from my sage advice from the right seat—even if I'm not officially an IP. And one thing is certain, I won't have to worry about getting my training requirements logged."

Quick Stoppers



Would-Be Cecil B. DeMilles, Please Take Note

A recent fatal midair collision between two TAC A-7D aircraft occurred when the pilot of one of the planes was preoccupied or distracted from his flight duties because he was busy taking pictures with his personal movie camera. His film-making activities were in violation of a TAC supplement to AFR 60-16 which forbids the use of unauthorized cameras or other nonessential personal equipment or devices during flight. Although multiperson-aircrewed MAC transports may not require such a strict prohibition, there is a continuing and pressing need for each of us to make certain that whenever we occupy a primary crewmember position we are tending to business at all times.

Wet and Wild

Wet runways can be nice for grease-job landings, but the hazards they pose far outweigh this one advantage. Nearly everybody has actually (or at least vicariously) been exposed to the perils of hydroplaning. A less common—yet equally unnerving—phenomenon caused by supersaturated cement was recently thrust upon a CT-39 crew. At about 75 knots on takeoff roll, the mini bi-jet encountered a substantial puddle of water. As it splashed through, both engines surged and then the right J-60 rapidly unwound toward zero. Returning the throttles to idle, the AC aborted the takeoff.

Curious about the situation which had caused number two to flameout the AC got permission to go out in a pickup truck and check the runway. He found standing pools of water up to a half inch deep all the way up and down the strip, with particularly large concentrations located 2,000 to 3,000 feet from both ends. When his Sabreliner plowed through the puddles, the spray went into the engine intakes and flamed out the right hand Pratt & Whitney. The tower had warned the crew that the runway was wet prior to their aborted takeoff attempt, but nobody—including the tower operators—had any idea that the puddles were so deep and extensive.

Lesson? Heads up when the RCR reads "Wet," especially if the engines are located on the rear of your airplane where they can be subjected to heavy deluges of water coming from the wheels.

QS

A Second at Prevention Is Worth a Pound of Accident Reports

A highly experienced pilot recently bent a couple of airplanes because he failed to peek out the window during some ground checks. After engine start, he was dutifully checking that all systems were "go" when the aircraft did—go, that is—traveling about 30 feet into another aircraft. The pilot didn't detect the aircraft's movement until too late.

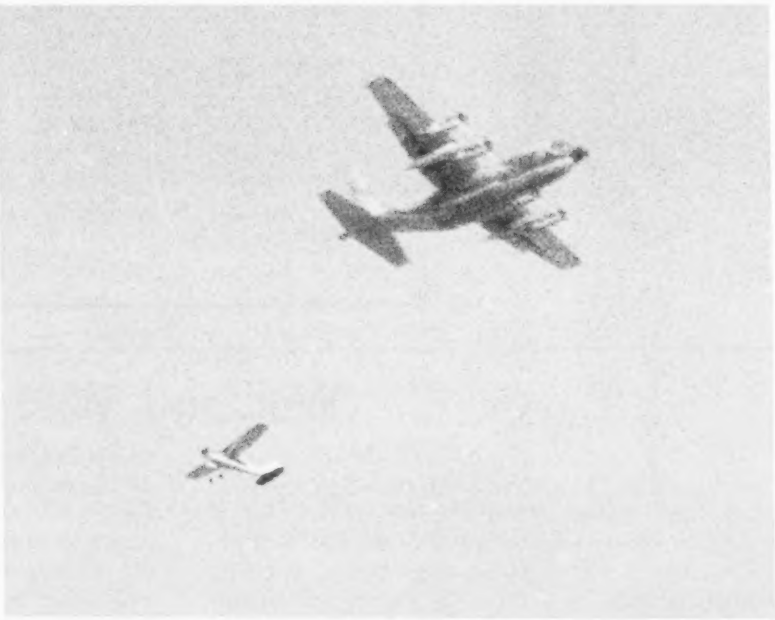
The moral? Continue to divide your attention between the outside world and cockpit duties even when you are on the ground and "safe" in the parking area. Anyone who has taken an instrument check under the hood knows that one peek is worth 1,000 cross-checks. In this case, one peek would have been worth $4,000.

—ATC *Approach to Safety*

Portrait of a Near Disaster

Although it is a bit grainy because of enlargement, this photo shows what a light aircraft almost 1,000 feet below its assigned altitude looks like when it flies through a five-ship formation of C-130's. The private pilot in this situation was extremely lucky because he finally saw what was about to happen in time to duck under the number two ship. But he was even luckier than that, because alert crewmen in the Air National Guard Herks also spotted his Cessna and called a "No Drop" in time to keep from peppering him with three planeloads of Army Rangers that were only seconds away from receiving green jump lights. While a crowd of VIP's and other onlookers who had assembled at Hunter AAGF to observe the big airdrop watched in amazement, an alert Chatham County police officer named D. H. Hicks grabbed his camera and captured this almost catastrophic moment.

The point here is obvious—be vigilant . . . even over the drop zone.



Notable Quote

A moving ETIC, once set in motion, tends to remain in that state.

—Maj Roger Melby, USAF (Ret)

After Deadline

BURNED SEATS AND PANELS were the result of firing a flare inside of a MAC aircraft recently. The plane had been pressed into service to mark a downed aircraft location and was loaded with a case of white-star parachute flares (M127A1) which were to be fired out of an open troop door. The flare wasn't designed for airborne use, nor are there any operating procedures for use in an aircraft. When one accidently discharged inside the airplane, it caused extensive damage.

LIGHTNING STRIKE DOWNS HERK. A stroke of lightning entered the outboard wing fuel tank of a MAC C-130 and ignited the fuel vapors there. The exploding fuel blew off about 25 feet of wing, rendering the Hercules uncontrollable. More on this mishap in the April Flyer.

INS REPLACES NAVS. MAC personnel officials confirm that the C-141 navigator force will be cut about 50 percent by 1983 because of the recently completed installation of the inertial navigation systems. Reductions are expected to come through normal assignments, retirements, and separations. MAC plans to fly airland missions with the present crew component less the navigator and to keep the navs aboard for airdrop missions.

TALL TOWER TALE. There are more than 300 radio and TV antenna towers over 1,000 feet tall in the United States, some reaching over 2,000 feet AGL. Most towers are supported by guy wires which can extend as far as 1,500 feet horizontally from the structure. Some of these towers are not on your maps.

STRONG WINDS AT THULE tossed and turned a Starlifter, but the crew brought the aircraft through safely due to a timely decision to go around. After encountering moderate turbulence on the approach, the aircrew frequently rechecked the winds. When the gusts continued to increase, they started a missed approach one mile outside of the FAF. On the go, the crew skillfully fought their way through severe turbulence and recovered at another base.

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Cartoon by Capt Bill Lee